

ENERGY STAR® Fact Sheet

ENERGY STAR Labeled Traffic Signals

New Product Category

ENERGY STAR® labeled traffic signals are one of the newest additions to the ENERGY STAR family of more than 30 labeled products.

ENERGY STAR labeled traffic signals incorporate light emitting diode (LED) technologies. LEDs are being used in vehicle traffic signals, such as circular and arrow shaped green, yellow and red indications, as well as in pedestrian signals comprised of a white walking man and an orange hand. Since LEDs are highly efficient semiconductor devices, they can emit considerable amounts of light from small inputs of power. LED traffic signals use between 6 to 25 watts under nominal operating conditions (77°F or 25°C), while incandescent bulb signals use between 70 to 150 watts. Designed for energy performance, ENERGY STAR labeled traffic signals will significantly reduce energy consumption and consumer utility bills.

Benefits of ENERGY STAR Labeled Traffic Signals

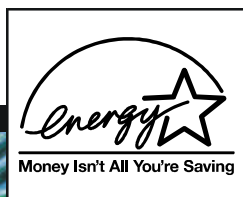
Through the use of ENERGY STAR qualified traffic signals, cities could save 1 million kWh of energy and nearly 70,000 dollars a year for every 100 signaled intersections replaced, saving money and improving the environment at the same time. LED traffic signals also may have lower maintenance costs because they can last more than seven years, while incandescent bulbs may last only one year. LED traffic signals also rarely fail, reducing the risk of accidents at intersections and associated liability costs for government agencies. So even with a higher initial investment, dollar-savings and quality-improvement benefits significantly outweigh costs.

ENERGY STAR Environmental Protection and Dollar Savings

The energy bill savings and the potential for air pollution prevention from using ENERGY STAR labeled traffic signals are substantial. Replacing all incandescent bulbs with LED modules in traffic signals in the United States would save about 2.7 billion kWh per year, or roughly between 80 to 90 percent of the energy currently consumed by incandescent signals—equivalent to eliminating the emissions from 443,000 cars per year.

Market Potential

The market potential for LED traffic signals is growing rapidly, aided by the enormous potential for energy savings. Approximately 7.5 million vehicle traffic signal (circular) indications, 1.5 million arrow indications, and 2 million pedestrian indications (hand-man combinations) could be equipped with LEDs. State, county, and municipal governments are the largest purchasers of LED traffic signal modules. Hundreds of cities and counties have implemented LED traffic signal projects, including Denver and Boulder County, Colorado; Philadelphia, Pennsylvania; Manchester, New Hampshire; Anaheim, California; St. Paul, Minnesota; and Scottsdale, Arizona.



ENERGY STAR Specification

The ENERGY STAR specification incorporates the national traffic engineering standards set by the Institute of Transportation Engineers (ITE), which most state and local governments have adopted. Only products that comply with ITE standards and have the lowest wattage rating under normal operating conditions can qualify to receive the ENERGY STAR label. Red and green circular modules of 8" and 12" diameter, red and green turn-arrow modules, and pedestrian signal modules (with hand/walking man indications) currently qualify for ENERGY STAR. Yellow indications will be eligible once products meet ITE specifications.

Traffic signals qualify for ENERGY STAR by meeting the following criteria:

| Module Type | Maximum Wattage (at 74°C) | Nominal Wattage (at 25°C) |
|------------------|------------------------------|------------------------------|
| 12" Red Ball | 17 | 11 |
| 8" Red Ball | 13 | 8 |
| 12" Red Arrow | 12 | 9 |
| 12" Green Ball | 15 | 15 |
| 8" Green Ball | 12 | 12 |
| 12" Green Arrow | 11 | 11 |
| Pedestrian Heads | | |
| Walking Man | 12 | 9 |
| Orange Hand | 16 | 13 |

What is ENERGY STAR?

The ENERGY STAR label helps consumers identify products that save them money and protect the environment by saving energy, which is usually generated by burning fossil fuels such as coal, oil, and natural gas.

Manufacturers and retailers sign voluntary agreements allowing them to place the ENERGY STAR label on products that meet or exceed energy-efficiency guidelines set by the US Environmental Protection Agency (EPA) and the US Department of Energy (DOE). Manufacturers and retailers also can use the label in product packaging, promotions, and advertising for qualified products.

ENERGY STAR has developed energy-efficiency guidelines for a broad range of products from lighting to consumer electronics. More than 1,200 manufacturers have signed voluntary agreements with ENERGY STAR to produce and market energy-efficient equipment, and the list is growing. The performance, features, reliability, and price of ENERGY STAR labeled products are the same as or better than those of conventional models.

Partners

Two companies—**GELcore, LLC** and **Leotek Electronics USA Corporation** are the first manufacturers to adopt the ENERGY STAR specification for their LED traffic signal products. GELcore, LLC will soon have 27 ENERGY STAR labeled products for purchase. Please visit www.gelcore.com and www.leotek.com for specific product information.

For More Information

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